

IN THE CLAIMS:

Please amend claims 1, 22, 24, and 32 as shown below. Only claims 1, 22, 24, and 32 have been amended.

1. (once amended) An antenna assembly having an operating frequency and a vertical radiation pattern with a main lobe axis defining a downtilt angle with respect to the earth's surface, the antenna assembly comprising:

a plurality of antenna means in first, second, and third antenna groups disposed along a backplane, the backplane having a longitudinal axis along which the antenna means are disposed;

phase adjustment means disposed between the first [second] and third antenna groups configured to simultaneously advance a phase angle of a signal to one of said first [second] and third antenna groups and delay the phase angle of said signal to the other of said first [second] and third antenna groups;

such that adjustment of the phase adjustment means results in variation of the vertical radiation pattern downtilt angle.

22. (once amended) The antenna assembly of claim 1, wherein said antenna assembly further comprises an input coupling means, said phase adjustment means providing a continuously variable electrical path length between said input coupling means and said first [second] and third antenna groups.

24. (once amended) An antenna assembly having an operating frequency and a vertical radiation pattern with a main lobe axis defining a downtilt angle with respect to the earth's surface, the antenna assembly comprising:

a plurality of antennas in first, second, and third antenna groups disposed along a backplane, the backplane having a longitudinal axis along which the antennas are disposed;

a phase adjustment mechanism disposed between the first [second] and third antenna groups, the phase adjustment mechanism including:

an input coupling element;

a movable coupling section having a pivotally mounted first end electromagnetically coupled to the input coupling element; and

a semicircular, air-substrated transmission line section electromagnetically coupled to a

second end of the movable coupling section;

such that adjustment of the phase adjustment mechanism results in variation of the vertical radiation pattern downtilt angle.

32. (once amended) An antenna assembly having an operating frequency and a vertical radiation pattern with a main lobe axis defining a downtilt angle with respect to the earth's surface, the antenna assembly comprising:

a plurality of antennas in first, second, and third antenna groups disposed along a backplane, the backplane having a longitudinal axis along which the antennas are disposed;

a phase adjustment mechanism disposed between the first [second] and third antenna groups, the phase adjustment mechanism including:

an input coupling element;

a movable coupling section having a pivotally mounted first end electromagnetically coupled to the input coupling element; and

a semicircular, air-substrated transmission line section electromagnetically coupled to a second end of the movable coupling section;

the phase adjustment mechanism having a range of adjustment including a minimum downtilt position, a mid-point, and a maximum downtilt position;

a drive mechanism coupled to the movable coupling section;

electrical path lengths at the operating frequency, from the input coupling element to each of the antennas, are selected to define a progressive phase shift between each of the antennas such that, with the phase adjustment mechanism set at its mid-point, the vertical radiation pattern downtilt angle is approximately 7 degrees;

such that adjustment of the phase adjustment mechanism results in variation of the vertical radiation pattern downtilt angle.